

What is claimed is:

5 1. An FM-CW radar apparatus using a traveling wave antenna as a transmitting antenna, and comprising a means for varying in upward/downward directions the projection angle of a combined beam pattern of a transmitted wave radiated from said traveling wave antenna.

10 2. An FM-CW radar apparatus as claimed in claim 1, wherein said means for varying the projection angle of the combined beam pattern of said transmitted wave in upward/downward directions is a means for varying the frequency of said transmitted wave.

15 3. An FM-CW radar apparatus as claimed in claim 2, wherein said means for varying the frequency of said transmitted wave varies said frequency by varying a modulating voltage to be input to a voltage-controlled oscillator that outputs said transmitted wave.

20 4. An FM-CW radar apparatus as claimed in claim 2, wherein said means for varying the frequency of said transmitted wave includes a means for switching said modulating voltage to be input to said voltage-controlled oscillator that outputs said transmitted wave, wherein the frequency of said transmitted wave is switched between an upper band region and a lower band region by switching said voltage.

25 5. A two-antenna FM-CW radar apparatus comprising a phase shifter for varying the projection angle of a beam pattern in upward/downward directions by controlling the phase of a radio wave to be transmitted or received, wherein said phase shifter is provided on either a transmitting antenna or a receiving antenna.

30 6. A single-antenna FM-CW radar apparatus comprising a phase shifter for varying the projection angle of a beam pattern in upward/downward directions by controlling the phase of a radio wave to be transmitted or received, wherein said phase shifter is provided on a transmitting/receiving antenna.